



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Michael F. Thomashow *et al.*

Serial No.: 10/632,436

Group No.: 1638

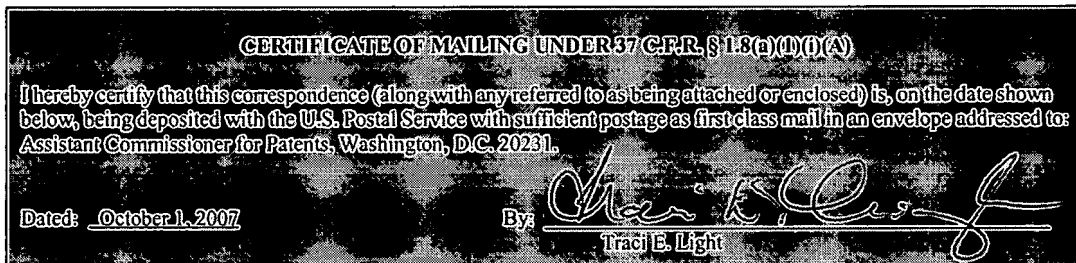
Filed: 08/01/2003

Examiner: Kumar, V.

Entitled: **Transcription Factors To Improve Plant Stress Factors**

**DECLARATION OF DR. MICHAEL THOMASHOW
UNDER 37 CFR § 1.132**

Mail Stop –Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450



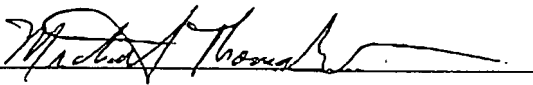
Examiner Kumar:

I, Michael Thomashow, Ph.D. under penalty of perjury, state that:

1. I am an inventor of the embodiments of the invention as claimed in the United States patent application captioned above.
2. I am considered an expert in the field of plant genetics, especially genetic regulation of plant responses to environmental stimuli.
3. I understand that the Examiner has questioned whether I discovered the RAV1 response to environmental stimuli before that disclosed in United States Patent Publication No. 2002/0160378 To Harper et al. filed on August 24, 2001.

4. I now provide a laboratory notebook page recorded before August 24, 2001 showing results from a microarray gene expression experiment following cold exposure. The RAV1 gene is listed (see the eighth entry from the bottom: circled) as a gene whose expression was modulated by cold exposure.
5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Dated: September 30, 2007


Dr. Michael Thomashow

Cold timecourse (FCs, nc=1)

Cluster #3 from 3x any cold FC(nc=1) cluster (CBF cluster)

PSN	Affy description
12571_s_at	AC004450 /FEATURE=mRNA-23 /GENE=F1482.237
12571_s_at	AB008106 /IERF-4 mRNA for ethylene responsive element binding factor 4, complete cds.
16425_s_at	AF148413 /FEATURE=cds-9 /GENE=T1124.171 /ferrochelatase-I
17900_s_at	M37247 /12S storage protein CRA1 gene, exons 1-4.
19577_s_at	AC000106 /FEATURE=cds-6 /GENE=F7G19.6 /Similar to Glycine SRC2
19577_s_at	AC004512 /FEATURE=cds-18 /GENE=T8F5.18 /Contains similarity to TMV resistance protein N
19620_s_at	AF051338 /hyaluronan endotransglycosylase related protein (TCH4) mRNA, complete cds.
14030_s_at	AC005670 /FEATURE=mRNA-14 /GENE=T6P5.14 /putative protein kinase
14529_s_at	AC004393 /FEATURE=cds-6 /GENE=T1F15.67
18631_s_at	AC002510 /FEATURE=mRNA-16 /GENE=T3236.16 /Unknown protein
15482_s_at	AC005499 /FEATURE=mRNA-16 /GENE=T6A23.16 /AAC87354.1
18597_s_at	AL082822 /FEATURE=cds-2 /GENE=T13K14.20 /LABEL=/PRODUCT= betaine bridge enzyme-like protein
13115_s_at	AC000375 /FEATURE=cds-22 /GENE=F19K23.22 /no identity info given
13508_s_at	A71590 /Sequence 23 from Patent WO9813478 (antifungal proteins)/unknown protein
14016_s_at	A71596 /Sequence 29 from Patent WO9813478 (antifungal proteins)/unknown protein
14640_s_at	AC004697 /FEATURE=mRNA-16 /GENE=T16824.16 /putative Mio protein
14918_s_at	AC006223 /FEATURE=mRNA-22 /GENE=F22D22.22 /putative alanine acetyl transferase
15613_s_at	M80394 /haemoglobin protein (HAT4) mRNA, complete cds.
14554_s_at	AC003671 /FEATURE=cds-4 /GENE=F1707.4 /no identity info
16565_s_at	AF155817 /zinc finger protein OBP4 mRNA, complete cds.
18885_s_at	AC006921 /FEATURE=mRNA-16 /GENE=F2H117.17 /unknown protein
16753_s_at	AL031032 /FEATURE=cds-11 /GENE=F176.110 /LABEL=/PRODUCT= putative protein
17047_s_at	AF078825 /RING-H2 finger protein RHA30 mRNA, complete cds.
19655_s_at	AC007260 /FEATURE=cds-7 /GENE=T30F21.7 /Highly similar to rice zinc finger protein
19489_s_at	AC007020 /FEATURE=mRNA-11 /GENE=T3G21.11 /AP2 domain transcription factor
19489_s_at	AF033206 /FEATURE=cds /GENE=/LABEL=/PRODUCT= putative pectin methyltransferase
15041_s_at	AF117053 /putative inositol polyphosphate 5-phosphatase AISP2 mRNA, complete cds.
15124_s_at	U59508 /osmotic stress-induced protein dehydrogenase (pro1) mRNA, complete cds.
13617_s_at	AC006592 /FEATURE=mRNA-9 /GENE=F14M13.10 /putative mitochondrial dicarboxylate carrier protein
18028_s_at	AJ011625 /aquasome promoter binding protein-like 2.
16111_s_at	AB007788 /DREB1B, complete cds.
16896_s_at	AC005652 /FEATURE=mRNA-18 /GENE=F13H10.19 /late embryogenesis abundant (LEA) M17 protein
16062_s_at	AB007788 /DREB1C, complete cds.
19538_s_at	D38109 /protein phosphatase 2C.
16610_s_at	AB008490 /ARR7 mRNA for response regulator 7, complete cds.
15392_s_at	AC005623 /FEATURE=mRNA-13 /GENE=T20P6.13 /unknown protein
20455_s_at	AL035394 /FEATURE=cds-22 /GENE=F8D16.22 /LABEL=/PRODUCT= putative Ap2 domain protein
20686_s_at	Y14424 /hypothetical protein SEB2, partial.
17520_s_at	AB007787 /DREB1A, complete cds.
16575_s_at	L40954 /lecithin mRNA, complete cds.
18949_s_at	Z54136 /MYB-related protein (1195 bp).
19707_s_at	Z95768 /AIMYB44 R2R3-MYB transcription factor.
15663_s_at	AB013886 /RAV1, complete cds.
18012_s_at	AJ002256 /inositol-1,4,5-trisphosphate 5-phosphatase.
17533_s_at	AC004450 /FEATURE=mRNA-17 /GENE=F1482.17 /putative protein kinase.
16570_s_at	D21805 /calcium-dependent protein kinase (CDPK), complete cds.
14367_s_at	AC004473 /FEATURE=cds-8 /GENE=T13D8.8 /Contains similarity to zinc-binding protein
19202_s_at	AC003680 /FEATURE=mRNA-21 /GENE=F17K2.21 /Putative PCF2-like DNA-binding protein
20421_s_at	U81294 /germin-like protein (GLP1) mRNA, partial cds.
19000_s_at	AC002131 /FEATURE=cds-17 /GENE=F12F1.17 /hypothetical protein

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DNA binding proteins	14
intracellular signalling	8
stress related	4 (-CBFs)